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Impact of the financial crisis on cross-border mergers and acquisitions and concentration in the global banking industry

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Executive Summary

The global banking industry has seen dramatic changes in the last 40 years. Most recently, the financial liberalization of emerging markets and the global financial crisis have significantly impacted the market share of banks worldwide. This paper investigates the impact of the 2007-2008 financial crisis on cross-border mergers and acquisitions (M&As) in the banking sector and emphasizes the role of emerging-market banks in the post-crisis consolidation trend. Using M&A data and concentration data over the period 2000-2013, our analysis indicates that the financial crisis had a significant impact on worldwide M&As, especially on the direction of the transactions. Emerging-market banks appear to be major acquirers in the post-crisis period, targeting both neighboring countries and developed economies in Europe. We also observe an increase in bank concentration in developed markets most hit by the financial crisis, especially in the US and the UK, whereas bank concentration decreased in emerging markets.

Keywords: Banking concentration, globalization, mergers and acquisitions, financial crisis, emerging markets.

Introduction

The global banking industry has seen dramatic changes in the last 40 years: regulation, deregulation, globalization, consolidation, privatization and financial crises. Most recently, the financial liberalization of emerging markets (EM) and the global financial crisis have significantly impacted the market share of banks worldwide, with top US banks failing and banks in Asia and Latin America acquiring financial institutions in Europe. In this article, we investigate the impact of the financial crisis on bank merger and acquisition (M&A) activity and bank concentration around the world. We follow a top-down approach, starting our analysis at the global level; then differentiating between emerging markets and developed markets, to finish at the country level. Indeed the effects of the financial crisis on bank concentration and M&A activity differed based on the level of financial development and integration of each market.

The internationalization of banks and the relationship between regulation and competition have been the focus of considerable research in business history (see Singleton and Verhoef (2010) for a comprehensive review of the literature). A dominant economic theory in the 1980s refers to the theory of contestable markets. By removing regulatory barriers to entry in the banking sector, governments could increase competition, forcing domestic banks to improve their performance whether or not foreign banks actually entered the market (Batiz-Lazo, 2004; Baumol, Panzar, & Willig, 1982; Baumol & Willig, 1986). As a matter of fact, many countries have liberalized their banking industry since the 1980s, and increased international competition has led to a global banking market where domestic banks compete with financial institutions around the world. Appendix A offers a review of the deregulation process that happened in the 1980s and 1990s in various banking systems across the globe. Such large-scale deregulation encouraged excessive risk-taking by banks and unsustainable levels of financial leverage, increasing financial market complexity and opaqueness, ultimately leading to the collapse of the financial system and a global banking crisis (Crotty, 2009).

Extant literature suggests that cross-border mergers and acquisitions in the banking sector have often been driven by episodes of banking crises in specific countries or regions (Berger, DeYoung, Genay, & Udell, 2000; Soussa, 2004). For instance, in the wake of the Scandinavian banking crisis in the early 1990s, large M&As took place in Sweden and Finland (Sigurjonsson & Mixa, 2011). Similarly, favorable conditions for foreign expansion arose in many emerging-market banking systems following the 1994-1995 tequila crisis (Crystal, Dages, & Goldberg, 2001; Gelos & Roldós, 2004; Lardy, 2001; Mathieson &

Roldos, 2001). Hence the first aim of our paper is to examine whether global banking M&A activity decreased after the financial crisis and whether the impact of the crisis was different for acquisitions from developed markets (most hit by the crisis) and acquisitions originating from emerging markets. Our second aim is to examine the effect of this post-crisis M&A activity on bank concentration around the world. Indeed, studies have shown that financial crises have a significant impact on bank concentration (Beltratti & Stulz, 2012; Mihai Yiannaki, 2013) and we investigate the relative impact of the crisis on concentration in developed versus emerging markets. Using an extensive sample of cross-border M&As over the period 2000-2013, we find that both in value and volume, the M&A activity in the banking sector has reduced at the global level. However a significant increase in M&A activity has been observed for emerging-market banks. Second, we observe that global concentration has in fact decreased after the crisis. Third, as the USA and the UK were most affected by the crisis, they became net target countries in the 2007-2013 period. Bank concentration has significantly increased in these countries.

Literature review and hypotheses

In this section, we articulate the evidence from the recent financial crisis and develop our testable hypotheses. Our hypotheses are also based on the literature looking at the impact of previous crises on banking concentration and M&A activity, which we review in Appendix B.

The 2007-2008 banking crisis was a systemic crisis as the money stock, and hence the entire financial system, was under threat (Schwartz, 1987). More specifically, a systemic banking crisis corresponds to an episode when the banking system shows significant signs of financial distress, and as a result, the government has taken significant banking policy intervention measures (Beck, Demirgüç-Kunt, & Levine, 2006; Beltratti & Stulz, 2009; Laeven & Valencia, 2010, 2013). Table 1 lists all the countries that had a systemic banking crisis in 2007-2009.

[Table 1 about here]

The USA was in financial crisis from December 2007, quickly followed by the UK (Billings & Capie, 2011). The collapse of Washington Mutual in September 2008 was the largest bank failure in history. The fire sale of Bear Stearns to JP Morgan Chase in March 2008 and the collapse of Lehman Brothers in September 2008 led to a credit crunch and a global banking crisis (Bao, Olson, & Yuan, 2011). Fortis and Dexia became the first European banks to be rescued by governments in September 2008 (Pisani-Ferry & Sapir, 2010). During this period, Eurozone countries experienced a debt crisis and several structural weaknesses in member states' banking sectors became evident (Arezki, Candelon, & Sy, 2011).

In response to the financial crisis, governments around the world bailed-out, nationalized and arranged fire sales for a large number of major banks. Also, some banks themselves engaged in fire sale activities (Beltratti & Stulz, 2012; Mihai Yiannaki, 2013). Between 2004 and 2009, the US banking system declined from 8,000 to under 7,000 commercial banks (Brean, Kryzanowski, & Roberts, 2011). Many US banks merged (the largest merger being between Bank of America and Merrill Lynch for $48.8 billion) or were acquired by domestic and foreign institutions (BBVA acquired Compass Bancshares for $9.87 billion in 2007). Also, new regulations were brought into effect like the Dodd-Frank Wall Street Reform Act in the USA (2010) and the Financial Services (Banking Reform) Act in the UK (2013). In Europe, a profound restructuring in financial supervision was ascertained. This change was established through the creation of two institutions: the European Systematic Risk Board and the European System of Financial Supervisors (ECB, 2008). Also, amendments to capital requirements directive through changes in community law were introduced in Europe.

As seen from Table 1, mostly developed markets encountered a systemic banking crisis. Indeed authors have shown that major EM were relatively under-affected by the global financial crisis and governments in these countries did not have to engage in large scale rescue of financial institutions as observed in developed markets (Faruqee, Blanchard, & Das, 2010; Gray et al., 2010; Laeven & Valencia, 2010; Maxfield & de Sousa, 2014; Rose & Spiegel, 2012). Authors have called this the decoupling effect, i.e., although contagion effects of the crisis were high across developed markets, they didn't reach large emerging markets (Dooley & Hutchison, 2009; Wälti, 2012). There is evidence of decoupling between the crisis in US financial markets and large EM such as Brazil and China as emerging markets outperformed US markets in the earlier periods of the crisis (Dooley & Hutchison, 2009). Dungey and Gajurel's (2014) study suggests that for the financial sector the contagion effects are not strongly related to high levels of global integration. Similarly, with the exception of Latin America, there was no contagion from the US to emerging markets (Samarakoon, 2011). Overall, we can argue that financial markets, especially in emerging markets, have seen milder decoupling from developed economies which has augured well for them during the recent economic crisis.

In limited cases, where EM experienced economic downturn, the issues were quickly resolved by a combination of several factors like bigger fiscal stimulus (e.g. China), astute monetary policy, stronger pre-crisis fundamentals, large reserve holdings (e.g. Russia) and sound trading partners (Gray et al., 2010). Thus, in EM, there was no need for big moves geared towards saving failed banks, reduce the competition via forced mergers or change in the ownership via foreign entry. Thus, supported by their respective governments (e.g. cheap capital, favorable policies) and with sudden access to large number of cheap assets, especially in crisis-afflicted countries, we expect a large number of cross-border acquisitions from EM. At the same time, due to the absence of any particular and systemic effect on the banking industry in EM, we anticipate that the crisis will not increase concentration in EM as compared to developed economies.

Based on previous literature and above discussion, we develop several testable empirical hypotheses. First, we test the impact of the crisis on banking M&A activity (value and volume) around the world. Indeed, global cross-border M&As in the banking sector have been strongly affected by the 2007-2008 crisis, in line with the overall decrease in trade observed over this period of uncertainty (Curran & Zignago, 2011; ECB, 2008; Kshetri, 2011; UNCTAD, 2009). Although several studies have looked at the impact of the financial crisis on banks and their M&A activity (Acharya & Schnabl, 2010; Beltratti & Paladino, 2013; Ivashina & Scharfstein, 2010), these studies are limited to specific countries or regions, and typically, focus on developed markets.

H1a. At the global level, we expect the value of cross-border M&As to decrease after the financial crisis.

H1b. After the financial crisis, the value of cross-border M&As from EM increased and the value of cross-border M&As from developed markets decreased.

Second, we investigate the effects of such post-crisis cross-border M&A activity on bank concentration in different regions and countries. Indeed existing studies do not assess the impact of the crisis on the level of bank concentration in different parts of the world.

H2a. At the global level, we expect bank concentration to increase after the financial crisis.

H2b. After the financial crisis, bank concentration increased in developed markets and decreased in EM.

H2c. Within developed markets, bank concentration increased most in countries most hit by the financial crisis.

Data and Methodology

Our data on banking mergers and acquisitions come from Thomson One and include deal information such as the deal value, the percentage of shares acquired during the transaction, the acquirer's and target's country of incorporation, and their industry classification. For the purpose of the following analysis, we clean the original sample to keep only significant cross-border acquisitions within the financial sector. By significant we mean *(i)* with a deal value no less than $10 million and *(ii)* majority stake acquisitions. In total, our sample includes 311 deals in the pre-crisis period (2000-2006) and 174 deals since the financial crisis (2007-2013).

To investigate the impact of these cross-border M&As on bank concentration, we need a measure of market concentration at the country level. Several proxies have been used, such as the total number of banks, the 3-bank, 5-bank or 10-bank concentration ratio, and the Herfindahl index (Bikker & Haaf, 2002; Guidara, Lai, Soumaré, & Tchana, 2013; Holtbrügge, 2004). Since all measures are highly correlated and yield similar results (Berger & Hannan, 1989; Bikker & Haaf, 2002), we select the 3-bank concentration ratio (CR3) as our main measure of bank concentration. The data come from the World Bank Financial Development and Structure Dataset. For each country and for every year from 2002 to 2011, the World Bank provides the market share of the top three banks in terms of assets. Pre-crisis concentration is the average ratio over 2002-2006 and post-crisis concentration is the average ratio over the period 2007-2011.

In order to test our different hypotheses, we perform t-tests of equality of means between the pre-crisis and post-crisis periods and between developed and emerging markets.

Results and Discussion

Impact of the crisis on cross-border mergers and acquisitions

Figure 1 and Table 2 provide details of the pre- and post-crisis cross-border M&A activity at the global level and by country's economic development.

[Figure 1 about here]

[Table 2 about here]

One main impact of the crisis is the reduction in M&A activity around the world, not only in number of deals but also in total transaction value. This trend however is not specific to the banking industry and reflects a general economic downturn in many countries (UNCTAD, 2009). Yet the banking sector encountered some high profile acquisitions since

2007; with 117 deals greater than $100 million in value and 28 deals larger than $1 billion. The USA was the main target country where large banks were acquired primarily by Canadian and Spanish institutions. For example, two large deals targeting US banks are the Compass Bancshares purchase already mentioned and the acquisition of Commerce Bancorp by Toronto-Dominion Bank for $8.6 billion in 2008. The USA was also the biggest acquirer country, along with France, Germany, Spain and the UK.

Looking at the distinction between developed and emerging markets, the value of cross-border transactions from EM banks has nearly tripled (from $7.9 billion in 2000-2006 to $22 billion in 2007-2013) whereas the value of cross-border M&As from developed markets has been reduced by more than half. As a result, the share of EM banks in worldwide M&As has increased significantly from 3.6% to 18.6% after 2007. This impressive growth in deal value is mostly due to increased M&A activity of EM banks in developed markets. Indeed the value of transactions from EM banks acquiring developed-market banks has quadrupled from $1.1 billion to $4.8 billion. Moreover, this is the only category where both the value and volume of deals has increased. Among high-profile deals from EM banks targeting developed markets after the crisis we can cite the acquisition of Singapore's Sorak Financial Holdings by Malaysian Maybank for $1.2 billion in 2007, or the deal between Sberbank Rossii, a Russian bank, and Volksbank International, an Austrian bank, for $738 million in 2011. In the post-crisis period, Brazilian banks have also added Portuguese and Swiss banks to their already internationalized portfolio. For example, Grupo Safra of Brazil acquired the Basel-based Bank Sarasin & Co for $1.22 billion.

Similarly, the transaction value of cross-border M&As from EM countries to other EM countries (EM-EM deals) has gone up from $6.8 billion to $17.5 billion in the post-crisis period. For example, in the East Europe/Central Asia region, most transactions were intra-regional EM-EM deals and their value doubled after the financial crisis (from $2.6 to $4.6 billion). We also see a remarkable growth in the value of deals from Middle East and North Africa (from $173 million to $5.4 billion), mostly targeting neighboring countries and countries in East Europe/Central Asia. This growth has been led by the acquisition of Egyptian and Turkish banks by Qatari, Kuwaiti and Saudi banks. In general, EM banks have pursued aggressively the strategy of internationalization and consolidation.

In order to further test hypotheses H1a-b, we use the t-test of equality of average deal value ($ million) between pre-crisis and post-crisis periods and the results are presented in Table 3. Although the number and total value of cross-border deals have reduced after the crisis, the average value of each deal hasn't significantly changed at the global level. Still differences exist at the regional level. On one side, the average value of cross-border deals from developed markets to EM has decreased from $664 to $420 million, although the difference is not statistically significant. On the other side, the average deal value for EM acquirers has more than tripled from $153 million before the crisis to $493 million after the crisis, and the difference is statistically significant at the 1% level. This increase in average deal value is mostly significant for EM banks targeting other EM institutions, consistent with Table 2 where intra-EM acquisitions increased in value but decreased in number.

[Table 3 about here]

Overall, our analysis suggests that, during the crisis, EM banks have materialized as leading acquirers. This is consistent with previous findings that EM continue to be active players in the global M&A landscape (Goddard et al., 2012; Petrou, 2007).

Impact of the crisis on bank concentration

Figure 2 shows the total number of commercial banks in 2001, 2005 and 2009 in selected regions. Over this period, the number of banks has decreased in the USA, the UK, East Europe and Central Asia, and Latin and South America. The biggest change occurred in continental Western Europe, where the number of commercial banks dropped from 6,000 in 2001 to 3,500 in 2005 then ascended again to 5,769 in 2009, reflecting tremendous financial integration and consolidation within EU countries in the first period followed by the entry of foreign banks in the second period, some from emerging markets. Conversely, the number of banks in new EU member countries has increased between 2001 and 2005, which is also the case in East and South Asia, Middle East and Africa. These upward trends are consistent with the growing penetration of foreign banks from developed markets in the early 2000s.

[Figure 2 about here]

Figure 3 shows the industry concentration, measured by the market share of the top 3 banks, in selected regions for the years before and after the financial crisis. The US banking system was traditionally more dispersed but concentration increased after the financial crisis (from 27 to 34%). It is worth noting that in other dispersed banking markets (e.g. Russia, Ukraine and India) concentration has further decreased after 2007. The UK also saw a large increase in the market share of its top three banks after the crisis (from 43 to 58%). The banking industry in continental Europe is highly concentrated, with universal banks offering the full range of financial services. On average, concentration in Europe has slightly decreased after the crisis, both in Western Europe and in new EU member states. In East

Europe (ex EU countries) and Central Asia, the market share of top banks has decreased from 64 to 54%, whereas the number has decreased from 59 to 56% in East and South Asia.

[Figure 3 about here]

The hypotheses H2a-c are tested using the concentration ratio CR3 over the pre-crisis (2002-2006) and post-crisis (2007-2011) periods. In Table 4, the results of the test of equality of mean reveal a significant decrease in global concentration (H2a) and this result is primarily driven by the statistically significant decrease in bank concentration in EM (H2b). We observe similar results for regional categorization of bank concentration with significant decrease in Europe, Asia and Africa. In South America, and particularly in Brazil, bank concentration has increased after the crisis. When we further look into crisis-afflicted countries (H2c), we find that countries which were the focal points in the global financial crisis like the USA and the UK experienced a significant increase in bank concentration. In Continental Europe, the effects of the crisis on bank concentration were mixed. Among the crisis-afflicted countries, bank concentration significantly increased in Belgium and Germany, and significantly decreased in Austria, Denmark and Luxembourg. In countries less affected by the crisis, a process of mean reversion took place: the CR3 ratio decreased in highly concentrated banking systems (e.g. Finland, Mexico, Poland) and increased in more dispersed banking markets (e.g. Brazil, Japan, Nigeria).

[Table 4 about here]

Overall, the financial crisis had a significant impact on bank concentration around the world. On one side, a decrease in average bank concentration means more competition overall. On the other side, highly concentrated markets became less concentrated; and more dispersed, market-oriented banking systems became more concentrated after the failure and/or fire sale of many banks.

Robustness checks

To check the robustness of our findings, we conducted additional analysis with different data for both M&A activity and bank concentration. First, we reproduced Figure 1 and Table 2 with an extended sample of deals (any transaction value) and the findings are similar to the ones presented in the paper. Second, we used two other measures of bank concentration: the market share of the top 5 banks in terms of assets and in terms of deposits. These variables were collected from the World Bank’s annual survey on Bank Regulation and Supervision. Although the data are not available on an annual basis for most countries, hence making the calculation of t-statistics more challenging, our general conclusions remain unchanged regarding the level of pre-crisis and post-crisis concentration in different parts of the world.

Conclusion

In this paper, we investigate the impact of the 2007-2008 financial crisis on M&As in the banking sector and emphasize the role of emerging-market banks in the post-crisis consolidation trend. First, we find that although at the global level M&A activity has reduced in the banking sector, a significant increase in deal number and value has been observed for emerging-market acquirers. Second, banking M&A activity was mostly affected in the USA and the UK which became net target countries in the 2007-2013 period. As a result, bank concentration has significantly increased in these countries, and this has several implications in the short and long term. In the short run, increased concentration has a direct impact on bank competition (or lack of) as concentrated banking systems provide banks with greater market power and allow them to boost the interest rates and fees they charge to corporations (Beck et al., 2006). In the long run, evidence from extant literature suggests that the consolidation process and increase in bank concentration driven by a financial crisis will reduce after some time (Beck, Demirguc-Kunt, & Levine, 2003; Beck et al., 2006). Indeed concentrated banking systems may reduce fragility by boosting bank profits, which might strengthen the banking system and create incentives for new banks to enter the market. Thus we anticipate that bank concentration in markets that experienced crisis-driven consolidation will eventually decrease.

The financial crisis that started in the USA and quickly spread into most developed markets significantly changed the dynamics in banking M&A around the world, and hence the market share of developed- vs emerging-market banks. Moreover, we observe regional dynamics overshadow globalization decisions in some EM, as banks choose to acquire regional institutions rather than investing at a global level. For example, we find that in East Asia and Pacific, 84% of the total value was concentrated in this region. Similarly in East Europe/Central Asia, we observe that 83% of the deals were intra-regional. Thus, in these EM, the focus of the acquiring banks is linked to regional consolidation and gaining market power in neighboring countries. At the same time, in other EM, banks have taken the opportunity to exploit cheap assets available in developed markets, especially in Europe. Hence, we observe acquisitions like that of Swiss bank by Brazilian Grupo Safra and Russian bank’s acquisition of Austrian Volksbank International. Though this is an interesting trend and EM banks have kept the cross-border M&A activity buoyant in a rather depressed economic landscape, their involvement in developed markets is watched with certain tepidity. Finally, future research is needed to investigate the impact of such cross-border M&A activity after the crisis on the market share of specific banks, and most importantly, on their long-term profitability.

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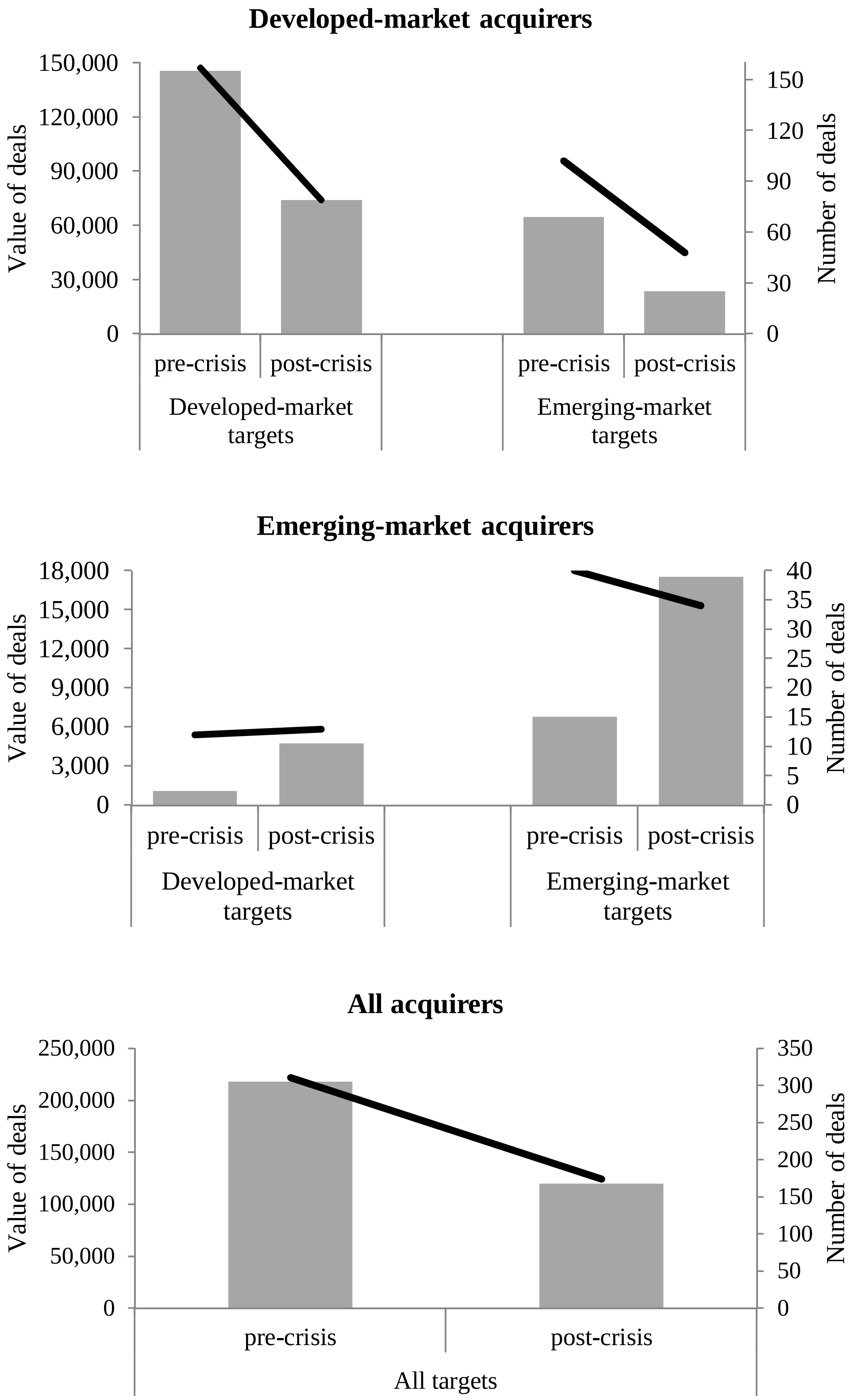
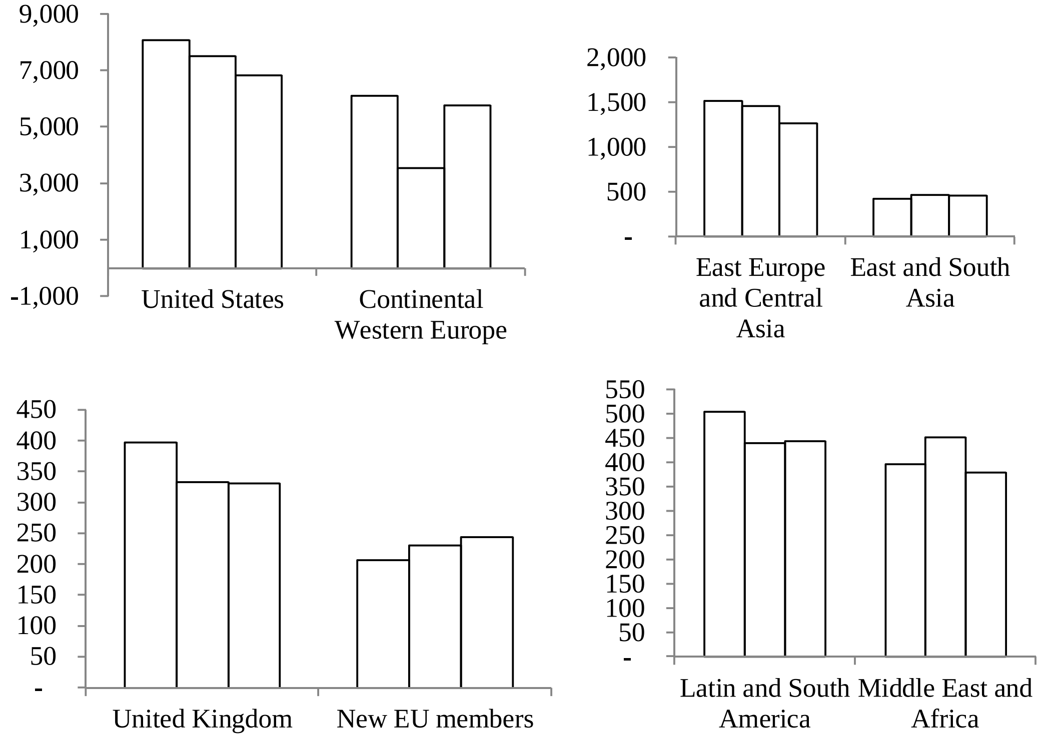
Figure 1. Value and number of cross-border acquisitions, 2000-2013, total by country's economic development.



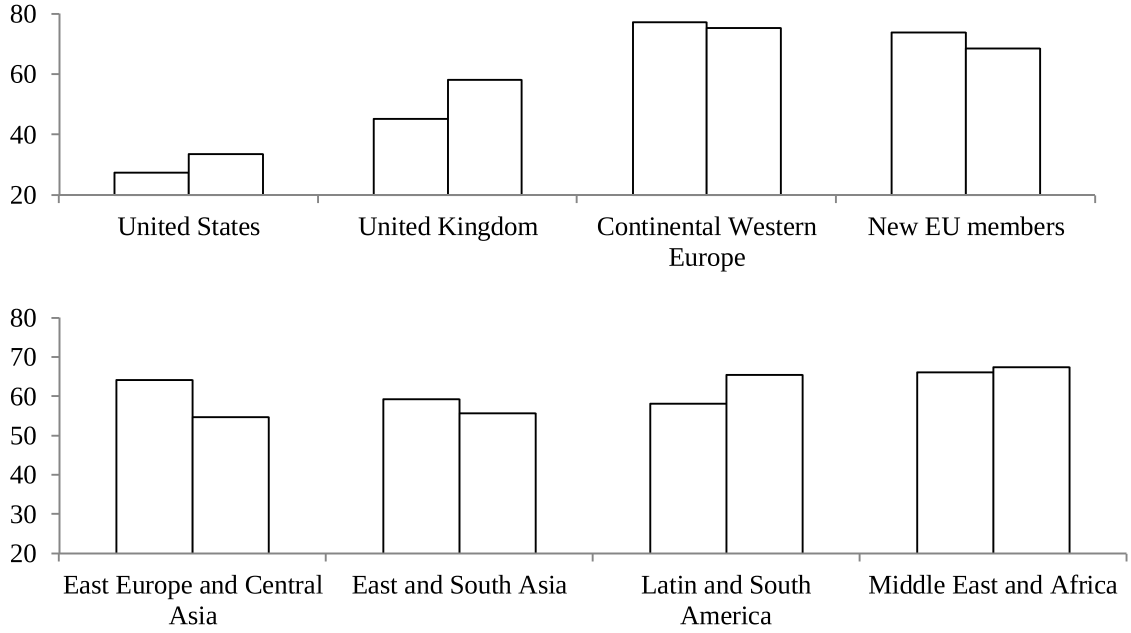
Source: Thomson One. Columns represent the value of deals in $ million (left axis) and lines represent the number of deals (right axis).

Figure 2. Total number of commercial banks in selected regions in 2001, 2005 and 2009, end of year.



Source: Bank Regulation and Supervision Surveys, World Bank. Each region includes all countries which are present in our M&A deal sample and for which survey data is available for all three years (2001, 2005 and 2009). East Europe and Central Asia excludes new EU members which are shown separately.

Figure 3. Market share of the top 3 banks (assets of the three largest banks as a share of assets of all commercial banks in the country) in selected regions over 2002-2006 (pre-crisis) and 2007-2011 (post-crisis).



Source: Financial Development and Structure Dataset, World Bank. East Europe and Central Asia excludes new EU members which are shown separately.

Table 1. Systemic banking crises in 2007-2009.

Country	Start date	Extensive liquidity support	Significant restructuring costs	Significant guarantees or liabilities	Significant nationalizations
		Systemic cases			
Austria	2008	×		×	×
Belgium	2008	×	×	×	×
Denmark	2008	×		×	×
Germany	2008	×		×	×
Iceland	2008	×	×	×	×
Ireland	2008	×	×	×	×
Latvia	2008	×		×	×
Luxembourg	2008	×	×	×	×
Mongolia	2008	×	×	×	×
Netherlands	2008	×	×	×	×
Ukraine	2008	×	×		×
UK	2007	×	×	×	×
USA	2007	×	×	×	×
		Borderline cases			
France	2008	×		×	
Greece	2008	×		×	
Hungary	2008	×		×	
Kazakhstan	2008	×	×		
Portugal	2008	×		×	
Russia	2008	×		×	
Slovenia	2008	×		×	
Spain	2008	×		×	
Sweden	2008	×		×	
Switzerland	2008	×			

Sources: Laeven and Valencia (2010), Rose and Spiegel (2012). Borderline cases are countries that almost met the definition of a systemic crisis.

Table 2. Value and number of cross-border acquisitions, 2000-2013, total by country's economic development, $ million.

		Developed-market targets		Emerging-market targets		All targets	
Developed-market acquirers							
	pre-crisis	145,651	(157)	64,601	(102)	210,251	(259)
	post-crisis	74,059	(79)	23,587	(48)	97,646	(127)
	% growth	-49%		-63%		-54%	
Emerging-market acquirers							
	pre-crisis	1,106	(12)	6,798	(40)	7,904	(52)
	post-crisis	4,762	(13)	17,518	(34)	22,279	(47)
	% growth	330%		158%		182%	
All acquirers							
	pre-crisis	146,757	(169)	71,399	(142)	218,155	(311)
	post-crisis	78,820	(92)	41,105	(82)	119,925	(174)
	% growth	-46%		-42%		-45%	

Source: Thomson One

Table 3. T-test of equality of average deal value ($ million) between pre-crisis and post-crisis periods

		Developed-market targets		Emerging-market targets		All targets	
Developed-market acquirers							
	pre-crisis	881.15	(157)	664.37	(102)	815.61	(259)
	post-crisis	893.42	(79)	420.08	(48)	757.65	(127)
	difference	12.27		-244.29		-57.96	
	t-stat	0.049		-1.151		-0.310	
Emerging-market acquirers							
	pre-crisis	219.40	(12)	118.75	(40)	153.18	(52)
	post-crisis	504.60	(13)	486.70	(34)	493.06	(47)
	difference	285.20		367.95		339.88	
	t-stat	1.515		2.319 **		2.810 ***	
All acquirers							
	pre-crisis	836.57	(169)	531.94	(142)	730.57	(311)
	post-crisis	835.81	(92)	449.35	(82)	689.22	(174)
	difference	-0.76		-82.59		-41.34	
	t-stat	-0.003		-0.490		-0.270	

Source: Thomson One

Table 4. T-test of equality of concentration ratio between pre-crisis and post-crisis periods

	pre-crisis	post-crisis	difference	t-stat
All countries	0.6866	0.6606	-0.0260	-2.32**
Developed markets	0.7649	0.7365	-0.0284	-0.87
Emerging markets	0.6634	0.6185	-0.0449	-2.68***
North America	0.6534	0.7080	0.0546	1.55
South America	0.4897	0.5529	0.0632	2.98***
Europe	0.7461	0.7034	-0.0428	-2.40**
Asia	0.6488	0.6028	-0.0460	-2.05**
Africa	0.7377	0.6673	-0.0703	-2.80***
Oceania	0.8335	0.7243	-0.1092	-1.58
Crisis countries				
Austria	0.6897	0.5755	-0.1142	-4.35***
Belgium	0.8149	0.8783	0.0634	3.07**
Denmark	0.8398	0.8114	-0.0284	-2.95**
Germany	0.7218	0.7501	0.0283	2.05**
Ireland	0.8055	0.7108	-0.0947	-1.56
Latvia	0.5598	0.5253	-0.0344	-1.44
Luxembourg	0.3701	0.3185	-0.0516	-2.15**
Netherlands	0.7901	0.8577	0.0676	1.08
Ukraine	0.3530	0.2930	-0.0600	-1.50
UK	0.4260	0.5823	0.1563	2.34**
USA	0.2670	0.3365	0.0694	3.50***
Borderline countries				
France	0.6058	0.6199	0.0141	0.79
Greece	0.7305	0.6716	-0.0589	-0.73
Hungary	0.6806	0.7059	0.0254	0.51
Kazakhstan	0.6056	0.5980	-0.0076	-0.17
Portugal	0.8855	0.8348	-0.0507	-1.31
Russia	0.3257	0.2796	-0.0461	-0.84
Slovenia	0.6717	0.5459	-0.1258	-3.52***
Spain	0.7567	0.7289	-0.0278	-0.69
Sweden	0.9478	0.9414	-0.0064	-1.08
Switzerland	0.8922	0.8895	-0.0026	-0.19
Other selected countries				
Brazil	0.4603	0.5795	0.1192	2.94**
Finland	0.9984	0.9553	-0.0431	-4.73***
Japan	0.3792	0.4453	0.0661	12.08***
Mexico	0.6320	0.5488	-0.0832	-2.50**
Nigeria	0.4078	0.5714	0.1636	2.45**
Poland	0.7021	0.4891	-0.2130	-3.97***

Source: Thomson One

Appendix A. Banking deregulation around the world (1980s-90s)

The deregulation process started in the UK when, in 1986, the Big Bang effectively deregulated London financial markets by abolishing fixed minimum commissions and single capacity trading. Commercial banks could purchase brokerage houses and market makers, and this led to significant mergers and acquisitions, such as the acquisition by Royal Bank of Scotland, in 1985, of the stockbroker Charterhouse Group for $173 million. Moreover, US banks, which had deregulated commission fees since 1975, took this opportunity to enter the UK market. Similar deregulation (the “little bang”) happened in 1987 in Canada, i.e., chartered banks could acquire investment dealers and capitalize upon new opportunities. All the major Canadian banks acquired securities dealers in 1987-88. A similar consolidation process happened in Japan in the 1980s, where Japanese banks acquired foreign institutions in the USA, the UK and Switzerland. In 1990, two domestic banks (Taiyo Kobe Bank and Mitsui Bank) merged in a $23 billion deal to form the world’s second largest bank.

In the same vein, the US banking sector experienced substantial deregulation and liberalization during the 1980s and 1990s, culminating with the 1999 Gramm–Leach–Bliley Act which allowed commercial banks and investment banks to consolidate. This acted as a catalyst to a spate of domestic consolidation and motivation for foreign acquisitions (Berger et al., 2000; Soussa, 2004). Between 1994 and 2004, about 2,700 mergers and acquisitions were undertaken by US banks, among which 99% were domestic transactions. This consolidation trend resulted in the number of banks falling from 11,500 in 1992 to just over 9,200 by 1997 (Casu, Girardone, & Molyneux, 2006). The market share of the ten largest banks increased from 20% in 1990 to 48% in 2004.

During the 1980s, European banking also moved from being highly regulated towards an integrated financial sector. Market leaders in several European countries adopted a strategy of merger and acquisition in order to consolidate their assets, and a restructuring and concentration process took place in small European countries (Boldt-Christmas, Jacobsen, & Tschoegl, 2001; DeYoung, Evanoff, & Molyneux, 2009; Larson, Schnyder, Westerhuis, & Wilson, 2011). These M&A activities were geared towards building domestic market power against foreign entry which would be the plausible outcome of liberalized banking sector. European financial integration and the European Union (EU) banking directives set the scene for considerable consolidation (Berger et al., 2000; Lees & Mauer, 2003). In 1992, the Single European Market was accompanied with a single banking license implying that any bank with a license to operate in any EU country could automatically become active in other EU countries. This significantly increased competitive pressures on European banks, leading to extensive domestic consolidation (Cybo-Ottone & Murgia, 2000). Authors have suggested that the threat of entry fuelled consolidation between commercial banks in southern Europe and between security dealers and banks in other parts of Europe. Between 1990 and 1995, the number of credit institutions in the euro area fell from around 11,000 to 9,500 with a further fall to about 6,400 in 2004 (Ekkayokkaya, Holmes, & Paudyal, 2009). Moreover, the Economic and Monetary Union (Eurozone) has significantly helped financial integration within euro area countries (Allen & Song, 2005). The value of both domestic and cross-border M&As within the EU increased substantially between 1998 and 2000 (Casu et al., 2006). Such consolidation led to saturation of the European M&A market with limited number of financial institutions available for acquisition; and this acted as a motivator for cross-EU mergers and acquisitions, especially into emerging markets (European Central Bank, 2000).

The new EU member states of Central and Eastern Europe[1] have faced a great degree of change over the past 20 years, restructuring their economies toward convergence to EU standards and transiting from centrally-planned to market economies (Casu et al., 2006). Between 1997 and 2003, many new member states reduced restrictions in banking and finance and undertook major privatization programs. Commercial banks are the dominant financial institutions in these countries (between 80 and 100% of their total banking sector) and nearly 70% of banking assets are controlled by foreign banks (European Central Bank, 2005). Indeed foreign banks massively entered these markets in the 1990s, corresponding to the run-up to the EU accession in 2004.

[1] The 10 new EU member states are Cyprus, Czech Republic, Estonia, Hungary, Lithuania, Latvia, Malta, Poland, Slovenia and Slovakia.

Appendix B. Banking industry in the wake of earlier crises

Cross-border mergers and acquisitions in the banking sector have often been driven by episodes of banking crises in specific countries or regions. For instance, in the wake of the Scandinavian banking crisis in the early 1990s, large M&As took place in Sweden and Finland (Sigurjonsson & Mixa, 2011). Similarly, the Japanese banking system was exposed to an asset price bubble that collapsed in 1990-1991. With several financial institutions experiencing difficulties or going bankrupt simultaneously, the whole banking system faced a systemic financial crisis in 1997-1998. As a result, various reforms were introduced allowing Japanese banks to offer a wide range of financial products and services. Given the weak operating climate after the crisis, the banking system has experienced a major transformation, noticeable in the decline in banks and mega-mergers between the largest institutions. Two big financial holdings were established in 2001, as a result of the mergers of large national banks: Mitsubishi Tokyo Financial Group and UFJ Holdings. In 2005, these two giants merged to form Mitsubishi UFJ Financial Group, creating the world's largest bank with $1.8 trillion assets.

The credit crunch of the 1990s in Japan (and the US) had placed the sounder Canadian banks at a competitive advantage. Moreover, US banks were still highly regulated until 1999 due to the prohibition of inter-state branches. Hence Canadian banks started to gain US and Japanese clients and became major players in North America. At the same time, Canadian regulators prohibited further domestic consolidation which provided further impetus for cross-border acquisitions.

In the UK, the M&A frenzy initiated by the Big Bang stumbled after the 1987 stock market crash but continued after the recession, particularly from 1995 when many UK banks failed under the pressure of reduced profitability. By 2005, there were hardly any significant independent merchant banks. Investment banking in Britain is now dominated by US, Swiss and German banks. Still large UK institutions continue to play a significant role in commercial banking and undertake major foreign acquisitions, such as the acquisition of a majority stake in ABSA (Amalgamated Bank of South Africa) by Barclays Bank in 2005 for a total of $5 billion.

The banking systems in emerging markets were traditionally characterized by high levels of government control, with restrictions on domestic and foreign entry. Most governments were pursuing financial repression by maintaining a financial sector monopoly through state-owned banks (Casu et al., 2006; Schenk, 2009). During the 1990s, macroeconomic pressures from various banking crises have forced governments to deregulate the industry. Indeed a number of EM economies have suffered significant financial crises, such as the 1994-1995 tequila crisis which originated in Mexico and spread to Brazil and Argentina, and the 1997-1998 Asian crisis which started in Thailand and spread to most of Southeast Asia. In both cases, the post-crisis period was characterized by substantial changes in the banking industry through bank restructuring programs and widened access to foreign ownership (Mudd, Grosse, & Mathis, 2002; Perez-Batres & Eden, 2008; Williams & Nguyen, 2005). At the domestic level, the main regulatory changes in the post-crisis period has been the removal of ceilings on deposit rates and the removal of the prohibition of interest payments on current accounts. This meant that banks had to reorganize and become more market-oriented. Consequently, many EM undertook a process of privatization of state-owned banks. Other deregulation measures have included opening up to competition from non-bank financial intermediaries and from foreign institutions (Molyneux, Nguyen, & Xie, 2013). Hence, many EM have experienced an unsupervised financial liberalization resulting in stronger competition. This has led to a growing presence of global financial institutions in search of profit opportunities. Favorable conditions for foreign expansion of developed banks arose in most EM, especially following the tequila crisis (Crystal et al., 2001; Gelos & Roldós, 2004; Lardy, 2001; Mathieson & Roldos, 2001). The majority of banking M&As from developed markets to emerging markets between 1995 and 2003 was to Latin America (58%) and was originated by Spanish and US banks (Soussa, 2004). Although the penetration of foreign banks was much lower in Asia, American and British banks engaged massively in M&As in this region between 1998 and 2000 (Casu et al., 2006; Klingebiel, Kroszner, Laeven, & van Oijen, 2001; Soussa, 2004; Williams & Nguyen, 2005), especially in Hong Kong, Singapore and South Korea. On one side, a significant process of domestic consolidation has been taking place after the crisis, reflected in a drop in the number of banks. On the other side, lower barriers to entry allowed increased participation of foreign banks from developed markets (Gelos & Roldós, 2004).